APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,555	12/20/2001	Linda J. Rankin	42390.P12340	4689

8791	7590	07/11/2006	

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EXAMINER
KING, JUSTIN

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,17,20-22,27 and 28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-5, 17, 20-22, and 27-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 3-5, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by

Amini et al. (U.S. Patent No. 5,542,055).

Referring to claim 1: Amini discloses a multi-node computer system (figure 7, multiple

levels of PCI bridges, figures 1A and 1C, multiple PCI devices under one bridge). Amini

discloses a mechanism creating a map of a multiple bus network. Amini discloses that in order

for the CPU to communicate with a particular peripheral device in a multiple bus network, it

must be able to first locate the correct bus where the particular peripheral device is connected,

then to locate the correct peripheral device on that bus (column 1, lines 58-63). Amini discloses

a bus manager (CPU executes the programs in figures 5 and 6, column 13, last paragraph) to map

the device information to the physical address in automatic response to a configuration event

causing a change in the physical address (column 7, lines 48-56, each device's configuration

register provides the data used for configuration; column 13, lines 51-65, a preliminary map is

used in response to any changes in physical configuration). Amini discloses that the bus

manager queries the bus devices (figure 5A, recursive routines from steps 256-266 and 276-282,

figure 6, program 300, column 20, lines 16-18) for creating the map; Amini further discloses

creating and accessing the map in one of the devices (system memory, column 20, lines 14-21).

Amini's querying each bus device/node for creating the map is the claimed determining

node ID information. Amini's creation of the map is the claimed storing node ID information.

Amini's recursive routine for query each devices is the claimed retrieving the third node's ID

information from the second node. Hence, claim is anticipated by Amini.

Referring to claim 3: Amini discloses that each PCI bridge has the configuration space

for the attached device (figures 2A-B). The configuration space is the claimed storage space

storing the identifying information.

Referring to claim 4: Amini's recursive routine for query each devices is the claimed

retrieving the third node's ID information from the second node.

Referring to claim 5: Claim is rejected with the same rationale as for the claim 3.

Referring to claims 17 and 20: Claim is rejected with the same rationale as for the claim

1.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combined teachings of the Amini and designer's choice.

        Referring to claim 21-22: Although Amini does not disclose the multi-node computer as

a server or a workstation in claims 21-22, such limitation are merely a matter of design choice

and would have been obvious. The prior art teaches a recursive query for initializing any

node/device in the computer system. The limitations in claims 21-22 do not define a patentably

distinct invention over that in prior arts since both the invention as a whole and prior art are

directed to a node/device initialization with recursive routines. The particular purpose of the

computer is inconsequential for the invention as a whole and presents no new or unexpected

results, so long as all attached nodes/devices are initialized. Therefore, to have the computer

functioning as a server or a workstation as claimed in claims 21-22 would have been a matter of

obvious design choice to one of ordinary skill in the computer art. Furthermore, data sharing

among computers is a common practice and well known in the computer art; any computer

accesses other computer's data is a workstation, and any computer allows other computer to

access is a server.

6.   Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combined teachings of Wang et al. (U.S. Patent No. 6,466,825) and the Amini.

Referring to claim 27: Wang discloses a multi-processor system (figure 2). Wang

discloses a CPU interface unite (figure 2, structure 210) for supporting multiple CPUs. Wang's

CPU interface is the claimed scalable node controller. Wang discloses a flow control unit (figure

2, structure 220) for control the data flow between the scalable nodes and bridges; Wang's flow

control unit is the claimed multi-port switch. Wang discloses bridges for connecting peripheral

devices/nodes; Wang's bridges are the claimed I/O hub controllers. Wang does not disclose the

claimed initialization process.

Amini discloses a multi-node computer system (figure 7, multiple levels of PCI bridges,

figures 1A and 1C, multiple PCI devices under one bridge). Amini discloses a mechanism

creating a map of a multiple bus network. Amini discloses that in order for the CPU to

communicate with a particular peripheral device in a multiple bus network, it must be able to

first locate the correct bus where the particular peripheral device is connected, then to locate the

correct peripheral device on that bus (column 1, lines 58-63). Amini discloses a bus manager

(CPU executes the programs in figures 5 and 6, column 13, last paragraph) to map the device

information to the physical address in automatic response to a configuration event causing a

change in the physical address (column 7, lines 48-56, each device's configuration register

provides the data used for configuration; column 13, lines 51-65, a preliminary map is used in

response to any changes in physical configuration). Amini discloses that the bus manager

queries the bus devices (figure 5A, recursive routines from steps 256-266 and 276-282, figure 6,

program 300, column 20, lines 16-18) for creating the map; Amini further discloses creating and

accessing the map in one of the devices (system memory, column 20, lines 14-21).

Amini's querying each bus device/node for creating the map is the claimed determining

node ID information. Amini's creation of the map is the claimed storing node ID information.

Amini's recursive routine for query each devices is the claimed retrieving the third node's ID

information from the second node. Hence, claim is anticipated by Amini.

Hence, it would have been obvious to one having ordinary skill in the computer art at the

time Applicant made the invention to adapt the teachings of Amini to modify Wang because

Amini teaches one to properly create an address map for locating any particular device/node in

the system during data transmission.

Referring to claim 28: Claim is rejected with the same rationale as for the claim 3.
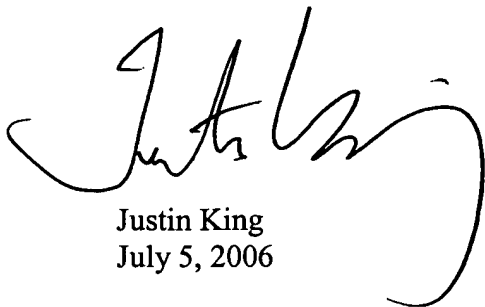
Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The

examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts

to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart

can be reached on 571-272-3632 or on the central telephone number, (571) 272-2100. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-

8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications
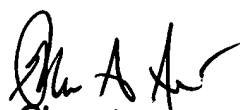
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will

cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign

patents and non-patent literature will continue to be included with office actions. These cited

U.S. patents and patent application publications are available for download via the Office's

PAIR. As an alternate source, all U.S. patents and patent application publications are available

on the USPTO web site (www.uspto.gov), from the Office of Public Records and from

commercial sources. Applicants are referred to the Electronic Business Center (EBC) at

http://www.uspto.gov/ebc/index.html or 1-866-217-9197 for information on this policy. Requests

to restart a period for response due to a missing U.S. patent or patent application publications

will not be granted.

Justin King
July 5, 2006

Glenn A. Auve
Primary Patent Examiner
Technology Center 2100